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IS 2289 (1976): 60° Dead Centres for Lathes [PGD 2: Machine Tool Elements and Holding Devices]

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Indian Standard

SPECIFICATION FOR 60° DEAD CENTRES FOR LATHES

(First Revision)

Machine Tools. Machine Tool Elements and Woodworking Machines Sectional Committee, EDC 11; Machine Tool Elements Subcommittee, EDC 11 : 1 [Ref : Doc : EDC 11 (2468)]

1. Scope — Prescribes requirements for the following two types of 60° dead contres for lathes:

a) Lathe centre full, and

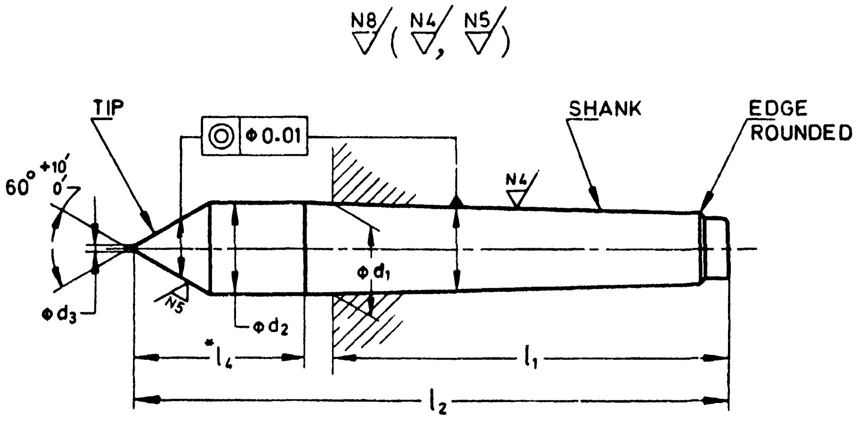
b) Lathe centre half.

1.1 The centres conforming to this standard are principally employed in lathes for holding the job. Their use may, however, be extended to other machines also.

Note — For requirements of carbide tipped dead centres, *see* IS : 2534-1963 ' Specification for carbide tipped dead centres ' and for live centres *see* IS : 3793-1966 ' Specification for live centres '.

2. Dimensions

2.1 *Lathe Centres Full*



*l_4 = LENGTH OF TIP, IF BUTT WELDED

All dimensions in millimetres.

Designation of Taper		Taper on Dia	d_1	d_2	d_3	l_1	l_2	l_4
Type	No.			h9		*Max*	*Max*	*Min*
Metric 5 percent	4	0·05	4·000	4·1	0·3	23·0	33	8
	6	0·05	6·000	6·2	0·3	32·0	47	12
Morse	0	0·052 05	9·045	9·2	0·5	50·0	70	17
	1	0·049 88	12·065	12·2	0·5	53·5	80	23
	2	0·049 95	17·780	18·0	0·8	64·0	100	31
	3	0·050 20	23·825	24·1	0·8	81·0	125	39
	4	0·051 94	31·267	31·6	1·0	102·5	160	51
	5	0·052 63	44·399	44·7	1·6	129·5	200	64
	6	0·052 14	63·348	63·8	2·0	182·0	270	80

Note 1 — A tolerance of ±IT 6 shall be permitted on the taper shanks. For other dimensions of taper shank, reference should be made to IS : 1715-1973 ' Dimensions for self-holding tapers (*first revision*) '.

Note 2 — If necessary, spanner flats may be provided on the cylindrical portion of the shank.

Note 3 — Dimensional deviation for untoleranced dimensions: Medium class according to IS : 2102-1969 'Allowable deviations for dimensions without specified tolerance (*first revision*)'.

Adopted 23 August 1976

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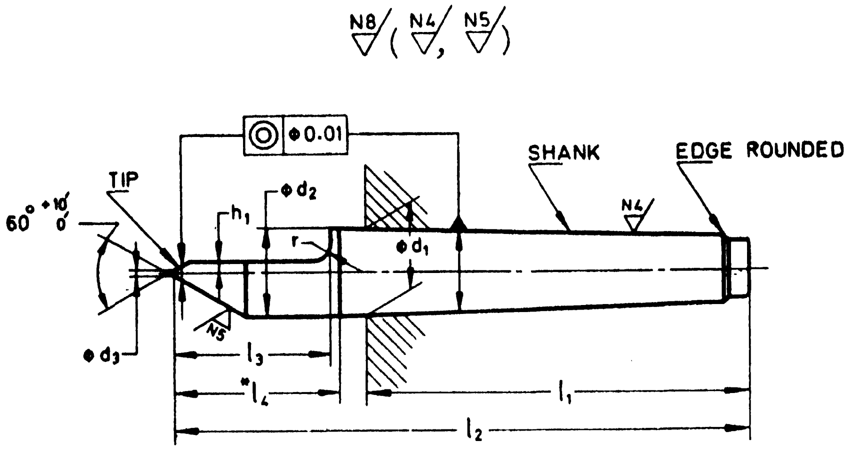
INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

2.1.1 *Designation* — A lathe centre full with Morse 4 taper shank shall be designated as:

Centre Morse 4 IS : 2289

2.2 *Lathe Centres Half*



*l_4=LENGTH OF TIP, IF BUTT WELDED

All dimensions in millimetres.

Designation of Taper		Taper on Dia	d_1	d_2	d_3	l_1	l_2	l_3	l_4	h_1	r
Type	No.			h9		*Max*	*Max*		*Min*		
Morse	0	0·052 05	9·045	9·2	0·5	50·0	70	16	17	1·0	2·5
	1	0·049 88	12·065	12·2	0·5	53·5	80	22	23	1·5	2·5
	2	0·049 95	17·780	18·0	0·8	64·0	100	30	31	2·0	4
	3	0·050 20	23·825	24·1	0·8	81·0	125	38	39	3·0	4
	4	0·051 94	31·267	31·6	1·0	102·5	160	50	51	5·0	6
	5	0·052 63	44·399	44·7	1·6	129·5	200	63	64	7·0	6
	6	0·052 14	63·348	63·8	2·0	182·0	270	79	80	10·0	10

Note 1 — A tolerance of ±IT 6 shall be permitted on the taper shanks. For other dimensions of taper shank, reference should be made to IS : 1715-1973.

Note 2 — If necessary, spanner flats may be provided on the cylindrical portion of the shank.

Note 3 — Dimensional deviation for untoleranced dimensions: Medium class according to IS : 2102-1969.

2.2.1 *Designation* — A lathe centre half with Morse 4 taper shank shall be designated as:

Centre Half Morse 4 IS : 2289

3. Material

3.1 *Centres with One Piece Construction* — High speed steel or good quality tool steel.

3.2 *Centres with Two Piece Construction* — Tip portion (l_4) — High speed steel. Butt welded to the shank.

3.2.1 *Shank portion* — Carbon steel with a tensile strength of not less than 700 MPa.

4. Hardness

4.1 The hardness on the tip of the centres (up to length l_4) shall not be less than 60 *HRC* and more than 63 *HRC*; and on the shank, it shall not be less than 30 *HRC* and more than 50 *HRC*.

5. Marking — The centres shall be marked with the name or registered trade-mark of the manufacturer and their taper size on the cylindrical portion of the shank.

5.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

6. Packing

6.1 The lathe centres shall be wrapped with moisture proof paper and shall be packed in accordance with the best trade practice.

EXPLANATORY NOTE

This standard was first published in 1963 and was based on the corresponding draft ISO Recommendation and on DIN 806-1961 '60° Dead centres for lathes', issued by Deutsches Institut für Normung (DIN), which has since been revised.

The present revision of the standard takes into account ISO 298 'Machine tools — Lathe centres — Sizes for interchangeability', issued by the International Organization for Standardization (ISO), fully, except the data relating to lathe centres with No. 80 and No. 100 metric taper and Nos. 1 to 3 Brown and Sharpe tapers and is in line with DIN 806-1971 '60° Lathe centres without extractor nut'.

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